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COVID-19 Virtual Care for the Geriatric Population: Exploring Two Sides of the Coin

Helen Senderovich[a] Shaira Wignarajah[b]

[a]Department of Family and Community Medicine, University of Toronto, Toronto, ON, Canada; [b]Department of Medicine, University of Limerick, Limerick, Ireland

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Abstract
Virtual care (VC) continues to gain attention as we make changes to the way we deliver care amidst our current COVID-19 pandemic. Exploring various ways of delivering care is of importance as we try our best to ensure we prioritize the health and safety of every one of our patients. One mode of care that is continuing to garner attention is telemedicine – the use of virtual technology to deliver care to our patients. The geriatric population has been of particular focus during this time. As with any new intervention, it is important that both the benefits and challenges are explored to ensure that we are finding ways to accommodate the patients we serve while ensuring that they receive the care that they require. This study aims to explore the various benefits and challenges to implementing VC in our day-to-day care for the geriatric population.

Introduction

We are living in a time of uncertainty, a time in which much is unknown. Yet as physicians and health-care providers, we are continuing to find novels ways to provide care while protecting the health of all those involved. As of now October 24th, 2020, there are 42,616,091 cases of COVID-19 worldwide, with 1,151,176 deaths [1]. Deaths occurred among individuals with both underlying conditions and without them.

Figure 1 depicts the 15,230 (as of May 13, 2020) deaths from COVID-19 in the USA. Among the 15,230 deaths, 11,370 had underlying conditions (such as diabetes, coronary artery disease, hypertension, and chronic obstructive pulmonary disease), with 1,551 unknown, and 2 without underlying conditions [1]. These numbers describe the now known fact that the repercussions of COVID-19 are more pronounced and fatal in those with pre-existing conditions.

During this time, many hospitals around the world are grappling with flooded emergency rooms (ERs) and wards, as individuals present themselves with suspected COVID-19. Having to meet these increasing demands, with limited capacity, while also maintaining social dis-

karger@karger.com
www.karger.com/ger

Correspondence to:
Helen Senderovich, hsenderovich@baycrest.org

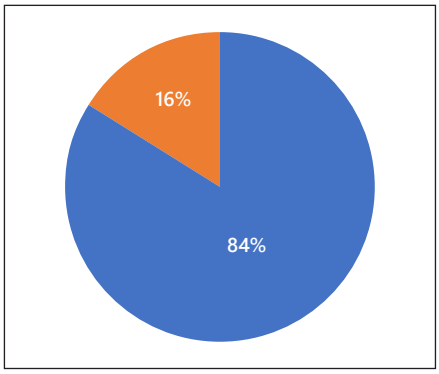

Fig. 1. Ratio of COVID-19 deaths with underlying, nonunderlying, and unknown health conditions.

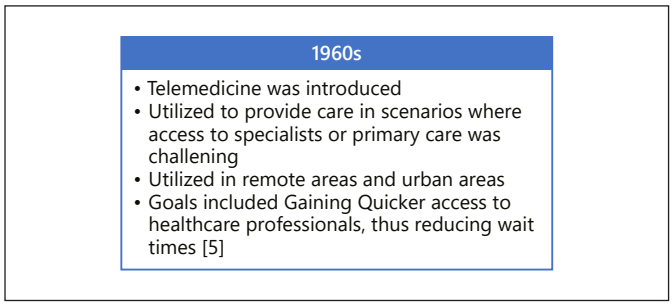

Fig. 2. Practicality and goals of telemedicine.

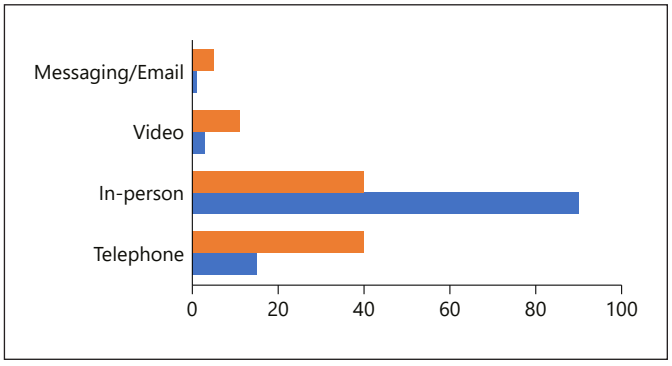

Fig. 3. Method of medical consultation pre- and post-COVID-19 global spread.

tancing policies, has led to a focus on virtual care (VC), as a way of dealing with the current challenges. VC has been defined as "interaction between patients and/or members of their circle of care, occurring remotely, using any forms of communication or information technologies with the aim of facilitating and maximizing the quality and effectiveness of patient care" [2]. The forms of communication include via telephone, video, text message, etc. "Remotely" refers to care that is not delivered in person. "Telemedicine" (TM) is a term that is often used interchangeable with VC. A summary of TM can be found in Figure 2. TM falls under VC and is focused on long-distance patient care.

In now 2020, VC has especially gained attention during the COVID-19 pandemic. In fact, the pandemic has been a catalyst, introducing VC to more individuals within a number of weeks than it ever has in years [3]. For example, in Ontario, Canada there have been 16,000 + new account requests on Service Ontario Network since March 1, 2020, which is 9 times the pre-March daily average [4]. Moreover, there have been 350,000 virtual visits on the Service Ontario Network since March 1, 2020, which is 10 times the pre-March 2020 daily average (for direct-to-patient visits) [4]. Virtual visits during peak hours on the Ontario TM Network hub have reached up to 1,900+, which is 5 times the pre-March peak hour volume [4].

Figure 3 shows the number of health-care visits and their mode, before the COVID-19 pandemic and after [3]. These numbers point to the increasing demand for VC delivery during the pandemic, highlighting its benefits in reducing unnecessary hospital and clinic visits [4]. But as with any tool, it is important to explore both risks and benefits.

Two Sides of a Coin – Exploring the Benefits

"People ask me what they can do to help. Stay home. That's the gist of it. The sooner everyone does this, the sooner this will be over, and the sooner I can see my kids again." – Dr. Vela [5]

VC allows physicians to screen patients, gather histories, assess symptoms, etc. TM also allows for monitoring patients with chronic medical conditions. Many general practitioners currently provide care through the phone. Incorporating visual conversations through face-to-face platforms may allow more thorough monitoring of patients [6]. Research shows that 50–70% of primary care can be handled effectively by phone [7]. Additionally, virtual visits yielded fewer tests, cutting health-care delivery costs [7]. Moreover, VC allows multiple individuals to

converse simultaneously, including family members, caregivers, language interpreters, and other health-care professionals.

Reducing Transmission

"If we reach a point that our hospitals are overwhelmed, there may also be more deaths because people can't receive the care that might have typically saved their life. A lot may happen without our ability to prevent or control it." – Dr. Ridson [7]

Social distancing in the hospital spaces is becoming tougher to maintain. The number of people attending the ER is expected to increase, posing a greater risk of transmission of COVID-19 [8]. VC allows patients to remain home while communicating with health-care professionals. Jefferson Health's telemedical systems in the USA are successfully treating patients without referring them to in-person care [8]. This reduces the burden on the health-care system and allows treatment of individuals in need and/or affected by COVID-19 [8]. This also reduces transmission of COVID-19, especially among older persons who are more vulnerable and at risk for complications. Avera Health, USA, is preparing to send mobile home health-care units directly to patients and coordinating home-based testing [8]. For sicker patients at home, such programs facilitate evaluation before hospital transfer, potentially permitting direct ward admission, avoiding further COVID-19 exposure [8]. Medications may also be delivered to patients' homes. For example, PocketPills, a British Columbia-based company, dispenses medications directly to patients across Canada free of charge [9]. Also, the Australian government invested 5 million toward e-prescribing for individuals who were self-isolating and New Zealand also recently initiated electronic prescribing [10].

Moreover, patients can be seen at home by various allied health-care providers who may help with assessment to provide a fuller picture of an individual's health and assessing the need for supportive care [9]. VC exercise programs for adults living at home have been found to be both financially and technologically feasible [9, 11]. VC also provides opportunity for health-care workers quarantined at home to continue working, reducing transmission of COVID-19 and preserves limited quantities of personal protective equipment [12].

Better Access to Care

"People living in rural, remote and Indigenous communities have unique challenges in accessing the health care they need" – John Horgan [13]

VC provides access to specialists who may not be available in-person [14]. Providing access to specialists will especially help the management of older adults, preventing unnecessary transfer to the ER and minimizing provider burnout [14]. Only about 1/3 of patients seen virtually have been triaged to the ER for a fuller assessment [9]. For example, Jefferson's Health has provided virtual emergency neurologic care at many hospitals for individuals who suffered a stroke [14]. Moreover, VC will help connect specialists who work in larger centers to patients who visit rural/remote hospitals without such specialists [9].

VC will also aid individuals who live in remote or suburban areas and have reduced access to primary care including Indigenous communities, correctional facilities, and LTC homes [9]. Having access to services (especially prescreening) from home allows for more efficient health-care delivery. Additionally, diagnostic accuracy has been reported to have no difference, at 71–91% in both VC and in-person visits [15]. During the pandemic, screening and testing are of much importance to flatten the curve. Thus, diagnosing older individuals at home and granting access to primary care and subspecialists virtually, will help reduce the number of ER visits, overcrowding of health facilities, and reduce disease transmission [16].

Therapeutic Alliance

"Therapeutic alliance" refers to the relationship between a physician and their patient which can enhance treatment outcomes [17]. Some studies state no significant difference in the quality of therapeutic alliance between traditional and videoconferencing therapies [18]. Moreover, videoconferencing does not appear to compromise the scope or depth of topics discussed in therapy, nor patients' emotions [18].

Many patients may benefit from seeing the facial expressions of physicians, as reading lips may help with understanding content of a conversation, leading to bonding and establishing a therapeutic alliance. This is helpful for the older population with frequently impaired sensory systems [19]. Moreover, physicians and patients can watch for emotional cues in facial expressions and body language [20]. Current in-person visits require wearing a face mask and shield by health-care providers, partially covering their face, mitigating those benefits. However, VC physicians need not wear a face mask, which may help communication. Comfort and one's mental health are key during a virtual session. Virtual communication has been found to decrease levels of stress in patients, as it removes the barriers such as childcare, driving, and parking [7].

Two Sides of a Coin – Exploring the Challenges

Despite advantages of VC, there are challenges, particularly regarding delivery to older adults. One challenge is ensuring consent is obtained from a patient prior to VC. For an informed decision, the patient must be made aware of the risks associated with unauthorized disclosure of personal health information, and ways to protect it [21]. Patients should also understand that VC does not replace the potential need for an in-person visit for physical examination, or in the case of emergency [22].

Learning Curve

There is a learning curve for patients and health-care providers associated with the use of technological platforms such as FaceTime, WhatsApp, and Zoom, and secure videoconferencing platforms such as Ontario TM Network, used in Ontario, and Microsoft Teams. It is important that adequate training on the usage of such platforms is provided to patients and health-care staff before VC is initiated. This is especially important in the geriatric population, where clinical liaisons (CLs) are often employed to help patients communicate with their health-care providers and families.

Impairments

Hearing loss, visual and cognitive impairments, and decreased mobility may impact an older person's ability to use VC [23]. CL is often used to assist patients with setting up, guiding through the usage of applications and more. Not every individual will have difficulty with learning or have impairment(s). Nonetheless, it is imperative to ensure that patients are comfortable with such modes of communication and/or help is available before VC is initiated.

Technical Challenges

Technical challenges, such as inadequate internet connection, may arise. Many rural communities often do not have similar access to Internet as urban counterparts. Thus, TM may contribute to current inequalities in access to care. Interruptions in Internet connection, or poor quality of either audio/visual, can disrupt communication in VC. The quality of video is especially important in cases requiring physical examination (e.g., wound/skin assessment) and for diagnosis and management.

Regarding logistics of VC, there is demand for CL who can facilitate VC sessions. This is compounded by the shortage of staff due to the pandemic. Medical students and volunteers may help facilitate care and e-visits with families. CL also plays a role in the health-care team by connecting patients with families and communicating with the allied health-care professionals to ensure that the patients' needs are met following conversations with a physician. Thus, CL must also be well-informed about changes in patients' medical, social status, and caregiver needs.

Therefore, a registered nurse or registered nurse practitioner may fill the CL role best, as they would possess appropriate medical background and knowledge. However, adding TM to a nurse's day-to-day duties may be overwhelming, especially during a pandemic. Thus, new recruitment of allied health-care professionals as CL and/or redeployment of staff must take place to facilitate VC. This brings into question whether health-care institutions will be able to financially endure the VC-associated costs.

Access to Examinations and Diagnostic Testing

Though VC can also be delivered via audio-only systems to accommodate the needs of patients who may not have access to advanced technology or there is no CL to facilitate the VC meeting, visual imaging may be required for physical examinations and establishing a diagnosis [23]. Moreover, in terms of examinations, there are limitations to the use of telehealth. For example, some parts of a physical examination may be difficult to perform via telehealth, such as auscultation despite the availability of the digital stethoscope, and/or an ear exam despite the availability of a digital otoscope, as the quality of the recording/audio/video may be inadequate. Furthermore, TM cannot deliver chemotherapy, stitch wounds, perform surgery, or take x-rays [9]. In fact, the Ontario LTC Board feels that TM cannot replace the face-to-face encounter and physical examination of patients [24]. Thus, the onus is on the physician to ensure that they adequately assess the patient via TM, through other means. It must be remembered that the physician is also responsible for using their judgment to balance virtual visits with an ongoing physical presence depending on the patients' needs [25, 26]. Thus, it is important to use telehealth adequately, preserving services and hospital space, especially during the time of a pandemic to those individuals who are in need of in-person physical examinations and diagnostic testing [25]. This suggests that healthcare should involve the balance of both VC and in-patient visits with the integration and strategic use of various different technologies to ensure that the best care possible is delivered [14].

Primary Care Physician

"A timely and a longitudinal, continuous relationship with a family doctor leads to better health and healthcare delivery." [26]

The use of telehealth also brings forth another question – the importance of a single primary care physician throughout one's life trajectory. LiveHealth Online, a health plan telehealth provider, found that patients were less likely to have a usual source of primary care, and nearly half reported that they had chosen LiveHealth Online for their most recent physician visit because they could not see their doctor that day due to a lack of either appointments and/or closure of the office [27]. Despite the advantages of having timely access to a physician, it also highlights that the lack of a primary care physician may result in disruption of continuity of patient care.

Revisiting Therapeutic Alliance

Despite the evidence that state the benefits of VC regarding creating and maintaining a therapeutic alliance, some studies show that VC can negatively impact the therapeutic alliance between a patient and physician. For example, in Canada, it was found that patients were less satisfied with their VC in comparison to care received in-person and preferred telephone consultations rather than video or messaging [28]. It should be noted that a critical component of patient-centered care is direct daily contact with patients, which may be lost amidst care provided virtually [29]. Patients who receive care from physicians who provide patient-centered care are found to be less likely to report depression symptoms, and instead more likely to report better health outcomes than VC [29]. As a matter of fact, some physicians have reported that they found it challenging to establish an emotional connection with their patients through VC. Some medical assistants felt unfulfilled due to less direct patient contact [14].

Conclusion

"We need to demonstrate to clinicians, patients and to payers that this is a good solution. That means changing some minds." – Simon Hagens [9]

Exploring both benefits and disadvantages of VC shows the scale tends to tip toward favoring its use – especially during a pandemic. The VC task force led by the Canadian Medical Association, the College of Family Physicians of Canada, and the Royal College of Physicians and Surgeons called on all governments to make VC a priority. They also ask for the establishment of national standards for safety, quality, privacy, and access to health information within VC. Moreover, they want VC to be included in medical education [9]. As of now, provincial and territorial governments are advising physicians to use VC when possible [9]. This goes to show that the pandemic has given us an opportunity to create long-lasting change in the health-care system.

Exploring the benefits of VC shows that VC can be used outside of a pandemic as well, especially within the geriatric population. Despite the challenges associated with TM, working to solve these challenges will allow to better amplify the benefits of VC. In particular, exploring the impact of VC on the therapeutic alliance is also critical to ensuring that patients' care is not compromised. Integrating VC into health-care services will help revolutionize the way, we deliver care for all populations for years to come. The use of VC both during and outside of a pandemic indicates that VC is here to stay. And so, the time to navigate the challenges and enhance the usage of VC is now.

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Conflict of Interest Statement

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Author Contributions

Helen Senderovich was responsible for the conception, design, drafting of the manuscript, critical revisions, and final approval of version to be published and accountable for all aspects of the published work. Shaira Wignarajah was responsible for drafting the manuscript.

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